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(54) Title: SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM			
(57) Abstract Novel polynucleotides and the proteins encoded thereby are disclosed.			

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What is claimed is:

1. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:
 - (a) the nucleotide sequence of SEQ ID NO:1;
 - (b) the nucleotide sequence of SEQ ID NO:1 from nucleotide 683 to nucleotide 934;
 - (c) the nucleotide sequence of the full-length protein coding sequence of clone vb11_1 deposited with the ATCC under accession number 98846;
 - (d) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vb11_1 deposited with the ATCC under accession number 98846;
 - (e) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:2;
 - (f) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:2, the fragment comprising eight contiguous amino acids of SEQ ID NO:2;
 - (g) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d); and
 - (h) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d), and that has a length that is at least 25% of the length of SEQ ID NO:1.
2. The polynucleotide of claim 1 wherein said polynucleotide is operably linked to at least one expression control sequence.
3. A host cell transformed with the polynucleotide of claim 2.
4. The host cell of claim 3, wherein said cell is a mammalian cell.
5. A process for producing a protein encoded by the polynucleotide of claim 2, which process comprises:

(a) the amino acid sequence of SEQ ID NO:2;
(b) a fragment of the amino acid sequence of SEQ ID NO:2, the fragment comprising eight contiguous amino acids of SEQ ID NO:2; and
(c) the amino acid sequence encoded by the cDNA insert of clone vb11_1 deposited with the ATCC under accession number 98846; the protein being substantially free from other mammalian proteins.

10. The protein of claim 9, wherein said protein comprises the amino acid sequence of SEQ ID NO:2.

11. A composition comprising the protein of claim 9 and a pharmaceutically acceptable carrier.

12. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:3;
- (b) the nucleotide sequence of SEQ ID NO:3 from nucleotide 63 to nucleotide 482;
- (c) the nucleotide sequence of SEQ ID NO:3 from nucleotide 201 to nucleotide 482;

- (d) the nucleotide sequence of the full-length protein coding sequence of clone vb12_1 deposited with the ATCC under accession number 98846;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vb12_1 deposited with the ATCC under accession number 98846;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vb12_1 deposited with the ATCC under accession number 98846;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vb12_1 deposited with the ATCC under accession number 98846;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:4;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:4, the fragment comprising eight contiguous amino acids of SEQ ID NO:4;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:3.

13. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:4;
- (b) a fragment of the amino acid sequence of SEQ ID NO:4, the fragment comprising eight contiguous amino acids of SEQ ID NO:4; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vb12_1 deposited with the ATCC under accession number 98846;

the protein being substantially free from other mammalian proteins.

14. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- of clone vb14_1 deposited with the ATCC under accession number 98846;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vb14_1 deposited with the ATCC under accession number 98846;
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- (f) the nucleotide sequence of a mature protein coding sequence of clone vb14_1 deposited with the ATCC under accession number 98846;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vb14_1 deposited with the ATCC under accession number 98846;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:6;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:6, the fragment comprising eight contiguous amino acids of SEQ ID NO:6;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:5.

15. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:6;
- (b) a fragment of the amino acid sequence of SEQ ID NO:6, the fragment comprising eight contiguous amino acids of SEQ ID NO:6; and

(c) the amino acid sequence encoded by the cDNA insert of clone vb14_1 deposited with the ATCC under accession number 98846; the protein being substantially free from other mammalian proteins.

16. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:7;
- (b) the nucleotide sequence of SEQ ID NO:7 from nucleotide 82 to nucleotide 294;
- (c) the nucleotide sequence of SEQ ID NO:7 from nucleotide 109 to nucleotide 294;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone ve11_1 deposited with the ATCC under accession number 98846;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone ve11_1 deposited with the ATCC under accession number 98846;
- (f) the nucleotide sequence of a mature protein coding sequence of clone ve11_1 deposited with the ATCC under accession number 98846;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone ve11_1 deposited with the ATCC under accession number 98846;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:8;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:8, the fragment comprising eight contiguous amino acids of SEQ ID NO:8;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:7.

- (c) the nucleotide sequence of SEQ ID NO:9 from nucleotide 118 to nucleotide 468;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vf2_1 deposited with the ATCC under accession number 98846;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vf2_1 deposited with the ATCC under accession number 98846;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vf2_1 deposited with the ATCC under accession number 98846;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vf2_1 deposited with the ATCC under accession number 98846;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:10;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:10, the fragment comprising eight contiguous amino acids of SEQ ID NO:10;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and

(k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:9.

19. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:10;
- (b) a fragment of the amino acid sequence of SEQ ID NO:10, the fragment comprising eight contiguous amino acids of SEQ ID NO:10; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vg2_1 deposited with the ATCC under accession number 98846;

the protein being substantially free from other mammalian proteins.

20. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:11;
- (b) the nucleotide sequence of SEQ ID NO:11 from nucleotide 124 to nucleotide 1641;
- (c) the nucleotide sequence of SEQ ID NO:11 from nucleotide 262 to nucleotide 1641;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vg2_1 deposited with the ATCC under accession number 98846;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vg2_1 deposited with the ATCC under accession number 98846;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vg2_1 deposited with the ATCC under accession number 98846;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vg2_1 deposited with the ATCC under accession number 98846;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:12;

- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:12, the fragment comprising eight contiguous amino acids of SEQ ID NO:12;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:11.

21. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:12;
 - (b) a fragment of the amino acid sequence of SEQ ID NO:12, the fragment comprising eight contiguous amino acids of SEQ ID NO:12; and
 - (c) the amino acid sequence encoded by the cDNA insert of clone vg2_1 deposited with the ATCC under accession number 98846;
- the protein being substantially free from other mammalian proteins.

22. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:13;
- (b) the nucleotide sequence of SEQ ID NO:13 from nucleotide 380 to nucleotide 892;
- (c) the nucleotide sequence of SEQ ID NO:13 from nucleotide 416 to nucleotide 892;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vj1_1 deposited with the ATCC under accession number 98846;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vj1_1 deposited with the ATCC under accession number 98846;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vj1_1 deposited with the ATCC under accession number 98846;

- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vj1_1 deposited with the ATCC under accession number 98846;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:14;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:14, the fragment comprising eight contiguous amino acids of SEQ ID NO:14;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:13.

23. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:14;
- (b) a fragment of the amino acid sequence of SEQ ID NO:14, the fragment comprising eight contiguous amino acids of SEQ ID NO:14; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vj1_1 deposited with the ATCC under accession number 98846;

the protein being substantially free from other mammalian proteins.

24. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:15;
- (b) the nucleotide sequence of SEQ ID NO:15 from nucleotide 62 to nucleotide 1057;
- (c) the nucleotide sequence of SEQ ID NO:15 from nucleotide 659 to nucleotide 1057;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vj1_1 deposited with the ATCC under accession number 98846;

- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone v11_1 deposited with the ATCC under accession number 98846;
- (f) the nucleotide sequence of a mature protein coding sequence of clone v11_1 deposited with the ATCC under accession number 98846;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone v11_1 deposited with the ATCC under accession number 98846;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:16;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:16, the fragment comprising eight contiguous amino acids of SEQ ID NO:16;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:15.

25. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:16;
 - (b) a fragment of the amino acid sequence of SEQ ID NO:16, the fragment comprising eight contiguous amino acids of SEQ ID NO:16; and
 - (c) the amino acid sequence encoded by the cDNA insert of clone v11_1 deposited with the ATCC under accession number 98846;
- the protein being substantially free from other mammalian proteins.

26. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:17;

- (b) the nucleotide sequence of SEQ ID NO:17 from nucleotide 74 to nucleotide 529;
- (c) the nucleotide sequence of SEQ ID NO:17 from nucleotide 140 to nucleotide 529;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vk2_1 deposited with the ATCC under accession number 98838;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vk2_1 deposited with the ATCC under accession number 98838;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vk2_1 deposited with the ATCC under accession number 98838;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vk2_1 deposited with the ATCC under accession number 98838;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:18;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:18, the fragment comprising eight contiguous amino acids of SEQ ID NO:18;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:17.

27. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:18;
- (b) a fragment of the amino acid sequence of SEQ ID NO:18, the fragment comprising eight contiguous amino acids of SEQ ID NO:18; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vk2_1 deposited with the ATCC under accession number 98838;

the protein being substantially free from other mammalian proteins.

28. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:19;
- (b) the nucleotide sequence of SEQ ID NO:19 from nucleotide 174 to nucleotide 3170;
- (c) the nucleotide sequence of SEQ ID NO:19 from nucleotide 1098 to nucleotide 3170;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vb21_1 deposited with the ATCC under accession number 98862;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vb21_1 deposited with the ATCC under accession number 98862;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vb21_1 deposited with the ATCC under accession number 98862;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vb21_1 deposited with the ATCC under accession number 98862;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:20;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:20, the fragment comprising eight contiguous amino acids of SEQ ID NO:20;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:19.

29. A protein comprising an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of SEQ ID NO:20;
(b) a fragment of the amino acid sequence of SEQ ID NO:20, the fragment comprising eight contiguous amino acids of SEQ ID NO:20; and
(c) the amino acid sequence encoded by the cDNA insert of clone vb21_1 deposited with the ATCC under accession number 98862; the protein being substantially free from other mammalian proteins.

30. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:21;
- (b) the nucleotide sequence of SEQ ID NO:21 from nucleotide 74 to nucleotide 1453;
- (c) the nucleotide sequence of SEQ ID NO:21 from nucleotide 224 to nucleotide 1453;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc35_1 deposited with the ATCC under accession number 98862;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc35_1 deposited with the ATCC under accession number 98862;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc35_1 deposited with the ATCC under accession number 98862;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc35_1 deposited with the ATCC under accession number 98862;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:22;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:22, the fragment comprising eight contiguous amino acids of SEQ ID NO:22;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees

C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:21.

31. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:22;
 - (b) a fragment of the amino acid sequence of SEQ ID NO:22, the fragment comprising eight contiguous amino acids of SEQ ID NO:22; and
 - (c) the amino acid sequence encoded by the cDNA insert of clone vc35_1 deposited with the ATCC under accession number 98862;
- ~~the protein being substantially free from other mammalian proteins.~~

32. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:23;
- (b) the nucleotide sequence of SEQ ID NO:23 from nucleotide 135 to nucleotide 368;
- (c) the nucleotide sequence of SEQ ID NO:23 from nucleotide 243 to nucleotide 368;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc36_1 deposited with the ATCC under accession number 98862;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc36_1 deposited with the ATCC under accession number 98862;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc36_1 deposited with the ATCC under accession number 98862;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc36_1 deposited with the ATCC under accession number 98862;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:24;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:24, the fragment comprising eight contiguous amino acids of SEQ ID NO:24;

- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:23.

33. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:24;
 - (b) a fragment of the amino acid sequence of SEQ ID NO:24, the fragment comprising eight contiguous amino acids of SEQ ID NO:24; and
 - (c) the amino acid sequence encoded by the cDNA insert of clone vc36_1 deposited with the ATCC under accession number 98862;
- the protein being substantially free from other mammalian proteins.

34. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:25;
- (b) the nucleotide sequence of SEQ ID NO:25 from nucleotide 370 to nucleotide 1662;
- (c) the nucleotide sequence of the full-length protein coding sequence of clone vc38_1 deposited with the ATCC under accession number 98862;
- (d) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc38_1 deposited with the ATCC under accession number 98862;
- (e) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:26;
- (f) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:26, the fragment comprising eight contiguous amino acids of SEQ ID NO:26;

(g) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d); and

(h) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d), and that has a length that is at least 25% of the length of SEQ ID NO:25.

35. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:26;
- (b) a fragment of the amino acid sequence of SEQ ID NO:26, the fragment comprising eight contiguous amino acids of SEQ ID NO:26; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vc38_1 deposited with the ATCC under accession number 98862;

the protein being substantially free from other mammalian proteins.

36. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:27;
- (b) the nucleotide sequence of SEQ ID NO:27 from nucleotide 105 to nucleotide 365;
- (c) the nucleotide sequence of SEQ ID NO:27 from nucleotide 147 to nucleotide 365;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc39_1 deposited with the ATCC under accession number 98862;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc39_1 deposited with the ATCC under accession number 98862;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc39_1 deposited with the ATCC under accession number 98862;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc39_1 deposited with the ATCC under accession number 98862;

- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:28;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:28, the fragment comprising eight contiguous amino acids of SEQ ID NO:28;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:27.

37. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:28;
 - (b) a fragment of the amino acid sequence of SEQ ID NO:28, the fragment comprising eight contiguous amino acids of SEQ ID NO:28; and
 - (c) the amino acid sequence encoded by the cDNA insert of clone vc39_1 deposited with the ATCC under accession number 98862;
- the protein being substantially free from other mammalian proteins.

38. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:29;
- (b) the nucleotide sequence of SEQ ID NO:29 from nucleotide 35 to nucleotide 1066;
- (c) the nucleotide sequence of SEQ ID NO:29 from nucleotide 128 to nucleotide 1066;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc40_1 deposited with the ATCC under accession number 98862;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc40_1 deposited with the ATCC under accession number 98862;

- (f) the nucleotide sequence of a mature protein coding sequence of clone vc40_1 deposited with the ATCC under accession number 98862;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc40_1 deposited with the ATCC under accession number 98862;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:30;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:30, the fragment comprising eight contiguous amino acids of SEQ ID NO:30;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:29.

39. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:30;
- (b) a fragment of the amino acid sequence of SEQ ID NO:30, the fragment comprising eight contiguous amino acids of SEQ ID NO:30; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vc40_1 deposited with the ATCC under accession number 98862;

the protein being substantially free from other mammalian proteins.

40. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:31;
- (b) the nucleotide sequence of SEQ ID NO:31 from nucleotide 38 to nucleotide 553;
- (c) the nucleotide sequence of SEQ ID NO:31 from nucleotide 104 to nucleotide 553;

- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc46_1 deposited with the ATCC under accession number 98862;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc46_1 deposited with the ATCC under accession number 98862;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc46_1 deposited with the ATCC under accession number 98862;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc46_1 deposited with the ATCC under accession number 98862;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:32;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:32, the fragment comprising eight contiguous amino acids of SEQ ID NO:32;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:31.

41. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:32;
- (b) a fragment of the amino acid sequence of SEQ ID NO:32, the fragment comprising eight contiguous amino acids of SEQ ID NO:32; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vc46_1 deposited with the ATCC under accession number 98862;

the protein being substantially free from other mammalian proteins.

42. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:33;
- (b) the nucleotide sequence of SEQ ID NO:33 from nucleotide 164 to nucleotide 2548;
- (c) the nucleotide sequence of SEQ ID NO:33 from nucleotide 242 to nucleotide 2548;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc49_1 deposited with the ATCC under accession number 98862;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc49_1 deposited with the ATCC under accession number 98862;
- (f) the nucleotide sequence of a mature protein-coding sequence of clone vc49_1 deposited with the ATCC under accession number 98862;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc49_1 deposited with the ATCC under accession number 98862;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:34;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:34, the fragment comprising eight contiguous amino acids of SEQ ID NO:34;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:33.

43. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:34;
- (b) a fragment of the amino acid sequence of SEQ ID NO:34, the fragment comprising eight contiguous amino acids of SEQ ID NO:34; and

(c) the amino acid sequence encoded by the cDNA insert of clone vc49_1 deposited with the ATCC under accession number 98862; the protein being substantially free from other mammalian proteins.

44. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:35;
- (b) the nucleotide sequence of SEQ ID NO:35 from nucleotide 150 to nucleotide 776;
- (c) the nucleotide sequence of SEQ ID NO:35 from nucleotide 246 to nucleotide 776;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc50_1 deposited with the ATCC under accession number 98862;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc50_1 deposited with the ATCC under accession number 98862;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc50_1 deposited with the ATCC under accession number 98862;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc50_1 deposited with the ATCC under accession number 98862;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:36;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:36, the fragment comprising eight contiguous amino acids of SEQ ID NO:36;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:35.

45. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:36;
- (b) a fragment of the amino acid sequence of SEQ ID NO:36, the fragment comprising eight contiguous amino acids of SEQ ID NO:36; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vc50_1 deposited with the ATCC under accession number 98862;

the protein being substantially free from other mammalian proteins.

46. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:37;
- (b) the nucleotide sequence of SEQ ID NO:37 from nucleotide 139 to nucleotide 1308;
- (c) the nucleotide sequence of SEQ ID NO:37 from nucleotide 211 to nucleotide 1308;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc51_1 deposited with the ATCC under accession number 98862;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc51_1 deposited with the ATCC under accession number 98862;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc51_1 deposited with the ATCC under accession number 98862;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc51_1 deposited with the ATCC under accession number 98862;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:38;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:38, the fragment comprising eight contiguous amino acids of SEQ ID NO:38;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and

(k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:37.

47. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:38;
- (b) a fragment of the amino acid sequence of SEQ ID NO:38, the fragment comprising eight contiguous amino acids of SEQ ID NO:38; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vc51_1 deposited with the ATCC under accession number 98862;

the protein being substantially free from other mammalian proteins.

48. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:39;
- (b) the nucleotide sequence of SEQ ID NO:39 from nucleotide 21 to nucleotide 1142;
- (c) the nucleotide sequence of SEQ ID NO:39 from nucleotide 114 to nucleotide 1142;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc52_1 deposited with the ATCC under accession number 98862;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc52_1 deposited with the ATCC under accession number 98862;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc52_1 deposited with the ATCC under accession number 98862;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc52_1 deposited with the ATCC under accession number 98862;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:40;

- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:40, the fragment comprising eight contiguous amino acids of SEQ ID NO:40;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:39.

49. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:40;
 - (b) a fragment of the amino acid sequence of SEQ ID NO:40, the fragment comprising eight contiguous amino acids of SEQ ID NO:40; and
 - (c) the amino acid sequence encoded by the cDNA insert of clone vc52_1 deposited with the ATCC under accession number 98862;
- the protein being substantially free from other mammalian proteins.

50. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:41;
- (b) the nucleotide sequence of SEQ ID NO:41 from nucleotide 13 to nucleotide 1416;
- (c) the nucleotide sequence of SEQ ID NO:41 from nucleotide 346 to nucleotide 1416;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc33_1 deposited with the ATCC under accession number 98886;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc33_1 deposited with the ATCC under accession number 98886;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc33_1 deposited with the ATCC under accession number 98886;

- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc33_1 deposited with the ATCC under accession number 98886;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:42;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:42, the fragment comprising eight contiguous amino acids of SEQ ID NO:42;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:41.

51. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:42;
- (b) a fragment of the amino acid sequence of SEQ ID NO:42, the fragment comprising eight contiguous amino acids of SEQ ID NO:42; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vc33_1 deposited with the ATCC under accession number 98886;

the protein being substantially free from other mammalian proteins.

52. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:43;
- (b) the nucleotide sequence of SEQ ID NO:43 from nucleotide 232 to nucleotide 1461;
- (c) the nucleotide sequence of SEQ ID NO:43 from nucleotide 280 to nucleotide 1461;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc34_1 deposited with the ATCC under accession number 98886;

- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc34_1 deposited with the ATCC under accession number 98886;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc34_1 deposited with the ATCC under accession number 98886;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc34_1 deposited with the ATCC under accession number 98886;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:44;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:44, the fragment comprising eight contiguous amino acids of SEQ ID NO:44;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:43.

53. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:44;
- (b) a fragment of the amino acid sequence of SEQ ID NO:44, the fragment comprising eight contiguous amino acids of SEQ ID NO:44; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vc34_1 deposited with the ATCC under accession number 98886;

the protein being substantially free from other mammalian proteins.

54. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:45;

- (b) the nucleotide sequence of SEQ ID NO:45 from nucleotide 1922 to nucleotide 2350;
- (c) the nucleotide sequence of SEQ ID NO:45 from nucleotide 2237 to nucleotide 2350;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc47_1 deposited with the ATCC under accession number 98886;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc47_1 deposited with the ATCC under accession number 98886;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc47_1 deposited with the ATCC under accession number 98886;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc47_1 deposited with the ATCC under accession number 98886;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:46;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:46, the fragment comprising eight contiguous amino acids of SEQ ID NO:46;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:45.

55. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:46;
- (b) a fragment of the amino acid sequence of SEQ ID NO:46, the fragment comprising eight contiguous amino acids of SEQ ID NO:46; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vc47_1 deposited with the ATCC under accession number 98886;

the protein being substantially free from other mammalian proteins.

56. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:47;
- (b) the nucleotide sequence of SEQ ID NO:47 from nucleotide 111 to nucleotide 1337;
- (c) the nucleotide sequence of SEQ ID NO:47 from nucleotide 246 to nucleotide 1337;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc54_1 deposited with the ATCC under accession number 98886;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc54_1 deposited with the ATCC under accession number 98886;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc54_1 deposited with the ATCC under accession number 98886;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc54_1 deposited with the ATCC under accession number 98886;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:48;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:48, the fragment comprising eight contiguous amino acids of SEQ ID NO:48;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:47.

57. A protein comprising an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of SEQ ID NO:48;
(b) a fragment of the amino acid sequence of SEQ ID NO:48, the fragment comprising eight contiguous amino acids of SEQ ID NO:48; and
(c) the amino acid sequence encoded by the cDNA insert of clone vc54_1 deposited with the ATCC under accession number 98886;
the protein being substantially free from other mammalian proteins.

58. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:49;
- (b) the nucleotide sequence of SEQ ID NO:49 from nucleotide 189 to nucleotide 1637;
- (c) the nucleotide sequence of SEQ ID NO:49 from nucleotide 270 to nucleotide 1637;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc57_1 deposited with the ATCC under accession number 98886;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc57_1 deposited with the ATCC under accession number 98886;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc57_1 deposited with the ATCC under accession number 98886;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc57_1 deposited with the ATCC under accession number 98886;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:50;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:50, the fragment comprising eight contiguous amino acids of SEQ ID NO:50;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees

C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:49.

59. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:50;
- (b) a fragment of the amino acid sequence of SEQ ID NO:50, the fragment comprising eight contiguous amino acids of SEQ ID NO:50; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vc57_1 deposited with the ATCC under accession number 98886;

the protein being substantially free from other mammalian proteins.

60. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:51;
- (b) the nucleotide sequence of SEQ ID NO:51 from nucleotide 15 to nucleotide 1934;
- (c) the nucleotide sequence of SEQ ID NO:51 from nucleotide 1704 to nucleotide 1934;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone ve13_1 deposited with the ATCC under accession number 98886;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone ve13_1 deposited with the ATCC under accession number 98886;
- (f) the nucleotide sequence of a mature protein coding sequence of clone ve13_1 deposited with the ATCC under accession number 98886;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone ve13_1 deposited with the ATCC under accession number 98886;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:52;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:52, the fragment comprising eight contiguous amino acids of SEQ ID NO:52;

- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:51.

61. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:52;
- (b) a fragment of the amino acid sequence of SEQ ID NO:52, the fragment comprising eight contiguous amino acids of SEQ ID NO:52; and
- (c) the amino acid sequence encoded by the cDNA insert of clone ve13_1 deposited with the ATCC under accession number 98886;

the protein being substantially free from other mammalian proteins.

62. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:53;
- (b) the nucleotide sequence of SEQ ID NO:53 from nucleotide 240 to nucleotide 503;
- (c) the nucleotide sequence of SEQ ID NO:53 from nucleotide 318 to nucleotide 503;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone ve16_1 deposited with the ATCC under accession number 98886;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone ve16_1 deposited with the ATCC under accession number 98886;
- (f) the nucleotide sequence of a mature protein coding sequence of clone ve16_1 deposited with the ATCC under accession number 98886;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone ve16_1 deposited with the ATCC under accession number 98886;

- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:54;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:54, the fragment comprising eight contiguous amino acids of SEQ ID NO:54;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:53.

63. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:54;
- (b) a fragment of the amino acid sequence of SEQ ID NO:54, the fragment comprising eight contiguous amino acids of SEQ ID NO:54; and
- (c) the amino acid sequence encoded by the cDNA insert of clone ve16_1 deposited with the ATCC under accession number 98886;

the protein being substantially free from other mammalian proteins.

64. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:55;
- (b) the nucleotide sequence of SEQ ID NO:55 from nucleotide 11 to nucleotide 1063;
- (c) the nucleotide sequence of SEQ ID NO:55 from nucleotide 71 to nucleotide 1063;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vf3_1 deposited with the ATCC under accession number 98886;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vf3_1 deposited with the ATCC under accession number 98886;

- (f) the nucleotide sequence of a mature protein coding sequence of clone vf3_1 deposited with the ATCC under accession number 98886;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vf3_1 deposited with the ATCC under accession number 98886;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:56;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:56, the fragment comprising eight contiguous amino acids of SEQ ID NO:56;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:55.

65. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:56;
- (b) a fragment of the amino acid sequence of SEQ ID NO:56, the fragment comprising eight contiguous amino acids of SEQ ID NO:56; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vf3_1 deposited with the ATCC under accession number 98886;

the protein being substantially free from other mammalian proteins.

66. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:57;
- (b) the nucleotide sequence of SEQ ID NO:57 from nucleotide 542 to nucleotide 886;
- (c) the nucleotide sequence of SEQ ID NO:57 from nucleotide 755 to nucleotide 886;

- (d) the nucleotide sequence of the full-length protein coding sequence of clone vj2_1 deposited with the ATCC under accession number 98886;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vj2_1 deposited with the ATCC under accession number 98886;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vj2_1 deposited with the ATCC under accession number 98886;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vj2_1 deposited with the ATCC under accession number 98886;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:58;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:58, the fragment comprising eight contiguous amino acids of SEQ ID NO:58;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:57.

67. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:58;
- (b) a fragment of the amino acid sequence of SEQ ID NO:58, the fragment comprising eight contiguous amino acids of SEQ ID NO:58; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vj2_1 deposited with the ATCC under accession number 98886;

the protein being substantially free from other mammalian proteins.

68. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:59;
- (b) the nucleotide sequence of SEQ ID NO:59 from nucleotide 30 to nucleotide 344;
- (c) the nucleotide sequence of SEQ ID NO:59 from nucleotide 84 to nucleotide 344;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vp7_1 deposited with the ATCC under accession number 98886;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp7_1 deposited with the ATCC under accession number 98886;
- (f) the nucleotide sequence of a mature protein-coding sequence of clone vp7_1 deposited with the ATCC under accession number 98886;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vp7_1 deposited with the ATCC under accession number 98886;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:60;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:60, the fragment comprising eight contiguous amino acids of SEQ ID NO:60;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:59.

69. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:60;
- (b) a fragment of the amino acid sequence of SEQ ID NO:60, the fragment comprising eight contiguous amino acids of SEQ ID NO:60; and

(c) the amino acid sequence encoded by the cDNA insert of clone vp7_1 deposited with the ATCC under accession number 98886; the protein being substantially free from other mammalian proteins.

70. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:61;
- (b) the nucleotide sequence of SEQ ID NO:61 from nucleotide 23 to nucleotide 757;
- (c) the nucleotide sequence of SEQ ID NO:61 from nucleotide 119 to nucleotide 757;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vp8_1 deposited with the ATCC under accession number 98886;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp8_1 deposited with the ATCC under accession number 98886;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vp8_1 deposited with the ATCC under accession number 98886;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vp8_1 deposited with the ATCC under accession number 98886;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:62;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:62, the fragment comprising eight contiguous amino acids of SEQ ID NO:62;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:61.

71. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:62;
- (b) a fragment of the amino acid sequence of SEQ ID NO:62, the fragment comprising eight contiguous amino acids of SEQ ID NO:62; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vp8_1 deposited with the ATCC under accession number 98886;

the protein being substantially free from other mammalian proteins.

72. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:63;
- (b) the nucleotide sequence of SEQ ID NO:63 from nucleotide 1048 to nucleotide 3726;
- (c) the nucleotide sequence of the full-length protein coding sequence of clone vb22_1 deposited with the ATCC under accession number 98933;
- (d) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vb22_1 deposited with the ATCC under accession number 98933;
- (e) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:64;
- (f) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:64, the fragment comprising eight contiguous amino acids of SEQ ID NO:64;
- (g) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d); and
- (h) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d), and that has a length that is at least 25% of the length of SEQ ID NO:63.

73. A protein comprising an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of SEQ ID NO:64;
(b) a fragment of the amino acid sequence of SEQ ID NO:64, the fragment comprising eight contiguous amino acids of SEQ ID NO:64; and
(c) the amino acid sequence encoded by the cDNA insert of clone vb22_1 deposited with the ATCC under accession number 98933; the protein being substantially free from other mammalian proteins.

74. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:65;
- (b) the nucleotide sequence of SEQ ID NO:65 from nucleotide 134 to nucleotide 667;
- (c) the nucleotide sequence of SEQ ID NO:65 from nucleotide 191 to nucleotide 667;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc48_1 deposited with the ATCC under accession number 98933;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc48_1 deposited with the ATCC under accession number 98933;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc48_1 deposited with the ATCC under accession number 98933;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc48_1 deposited with the ATCC under accession number 98933;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:66;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:66, the fragment comprising eight contiguous amino acids of SEQ ID NO:66;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees

C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:65.

75. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:66;
- (b) a fragment of the amino acid sequence of SEQ ID NO:66, the fragment comprising eight contiguous amino acids of SEQ ID NO:66; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vc48_1 deposited with the ATCC under accession number 98933;

the protein being substantially free from other mammalian proteins.

76. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:67;
- (b) the nucleotide sequence of SEQ ID NO:67 from nucleotide 65 to nucleotide 457;
- (c) the nucleotide sequence of SEQ ID NO:67 from nucleotide 158 to nucleotide 457;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vp3_1 deposited with the ATCC under accession number 98933;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp3_1 deposited with the ATCC under accession number 98933;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vp3_1 deposited with the ATCC under accession number 98933;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vp3_1 deposited with the ATCC under accession number 98933;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:68;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:68, the fragment comprising eight contiguous amino acids of SEQ ID NO:68;

- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:67.

77. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:68;
- (b) a fragment of the amino acid sequence of SEQ ID NO:68, the fragment comprising eight contiguous amino acids of SEQ ID NO:68; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vp3_1 deposited with the ATCC under accession number 98933; the protein being substantially free from other mammalian proteins.

78. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:69;
- (b) the nucleotide sequence of SEQ ID NO:69 from nucleotide 29 to nucleotide 1387;
- (c) the nucleotide sequence of SEQ ID NO:69 from nucleotide 113 to nucleotide 1387;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vc61_1 deposited with the ATCC under accession number 207012;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vc61_1 deposited with the ATCC under accession number 207012;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vc61_1 deposited with the ATCC under accession number 207012;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vc61_1 deposited with the ATCC under accession number 207012;

- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:70;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:70, the fragment comprising eight contiguous amino acids of SEQ ID NO:70;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:69.

79. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:70;
- (b) a fragment of the amino acid sequence of SEQ ID NO:70, the fragment comprising eight contiguous amino acids of SEQ ID NO:70; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vc61_1 deposited with the ATCC under accession number 207012; the protein being substantially free from other mammalian proteins.

80. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:71;
- (b) the nucleotide sequence of SEQ ID NO:71 from nucleotide 44 to nucleotide 1513;
- (c) the nucleotide sequence of SEQ ID NO:71 from nucleotide 92 to nucleotide 1513;
- (d) the nucleotide sequence of SEQ ID NO:71 from nucleotide 1 to nucleotide 458;
- (e) the nucleotide sequence of the full-length protein coding sequence of clone vp15_1 deposited with the ATCC under accession number 207012;

- (f) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp15_1 deposited with the ATCC under accession number 207012;
- (g) the nucleotide sequence of a mature protein coding sequence of clone vp15_1 deposited with the ATCC under accession number 207012;
- (h) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vp15_1 deposited with the ATCC under accession number 207012;
- (i) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:72;
- (j) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:72, the fragment comprising eight contiguous amino acids of SEQ ID NO:72;
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(h); and
- (l) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(h), and that has a length that is at least 25% of the length of SEQ ID NO:71.

81. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:72;
- (b) the amino acid sequence of SEQ ID NO:72 from amino acid 1 to amino acid 139;
- (c) a fragment of the amino acid sequence of SEQ ID NO:72, the fragment comprising eight contiguous amino acids of SEQ ID NO:72; and
- (d) the amino acid sequence encoded by the cDNA insert of clone vp15_1 deposited with the ATCC under accession number 207012;

the protein being substantially free from other mammalian proteins.

82. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:73;
- (b) the nucleotide sequence of SEQ ID NO:73 from nucleotide 348 to nucleotide 743;
- (c) the nucleotide sequence of SEQ ID NO:73 from nucleotide 414 to nucleotide 743;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vp17_1 deposited with the ATCC under accession number 207012;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp17_1 deposited with the ATCC under accession number 207012;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vp17_1 deposited with the ATCC under accession number 207012;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vp17_1 deposited with the ATCC under accession number 207012;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:74;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:74, the fragment comprising eight contiguous amino acids of SEQ ID NO:74;
- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:73.

83. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:74;
- (b) a fragment of the amino acid sequence of SEQ ID NO:74, the fragment comprising eight contiguous amino acids of SEQ ID NO:74; and

(c) the amino acid sequence encoded by the cDNA insert of clone vp17_1 deposited with the ATCC under accession number 207012; the protein being substantially free from other mammalian proteins.

84. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:75;
- (b) the nucleotide sequence of SEQ ID NO:75 from nucleotide 144 to nucleotide 461;
- (c) the nucleotide sequence of the full-length protein coding sequence of clone vp19_1 deposited with the ATCC under accession number 207012;
- (d) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp19_1 deposited with the ATCC under accession number 207012;
- (e) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:76;
- (f) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:76, the fragment comprising eight contiguous amino acids of SEQ ID NO:76;
- (g) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d); and
- (h) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(d), and that has a length that is at least 25% of the length of SEQ ID NO:75.

85. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:76;
- (b) a fragment of the amino acid sequence of SEQ ID NO:76, the fragment comprising eight contiguous amino acids of SEQ ID NO:76; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vp19_1 deposited with the ATCC under accession number 207012;

the protein being substantially free from other mammalian proteins.

86. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:77;
- (b) the nucleotide sequence of SEQ ID NO:77 from nucleotide 54 to nucleotide 368;
- (c) the nucleotide sequence of SEQ ID NO:77 from nucleotide 141 to nucleotide 368;
- (d) the nucleotide sequence of SEQ ID NO:77 from nucleotide 51 to nucleotide 332;
- (e) the nucleotide sequence of the full-length protein coding sequence of clone vq1_1 deposited with the ATCC under accession number 207012;
- (f) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vq1_1 deposited with the ATCC under accession number 207012;
- (g) the nucleotide sequence of a mature protein coding sequence of clone vq1_1 deposited with the ATCC under accession number 207012;
- (h) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vq1_1 deposited with the ATCC under accession number 207012;
- (i) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:78;
- (j) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:78, the fragment comprising eight contiguous amino acids of SEQ ID NO:78;
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(h); and
- (l) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(h), and that has a length that is at least 25% of the length of SEQ ID NO:77.

87. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:78;
- (b) the amino acid sequence of SEQ ID NO:78 from amino acid 1 to amino acid 93;
- (c) a fragment of the amino acid sequence of SEQ ID NO:78, the fragment comprising eight contiguous amino acids of SEQ ID NO:78; and
- (d) the amino acid sequence encoded by the cDNA insert of clone vq1_1 deposited with the ATCC under accession number 207012;

the protein being substantially free from other mammalian proteins.

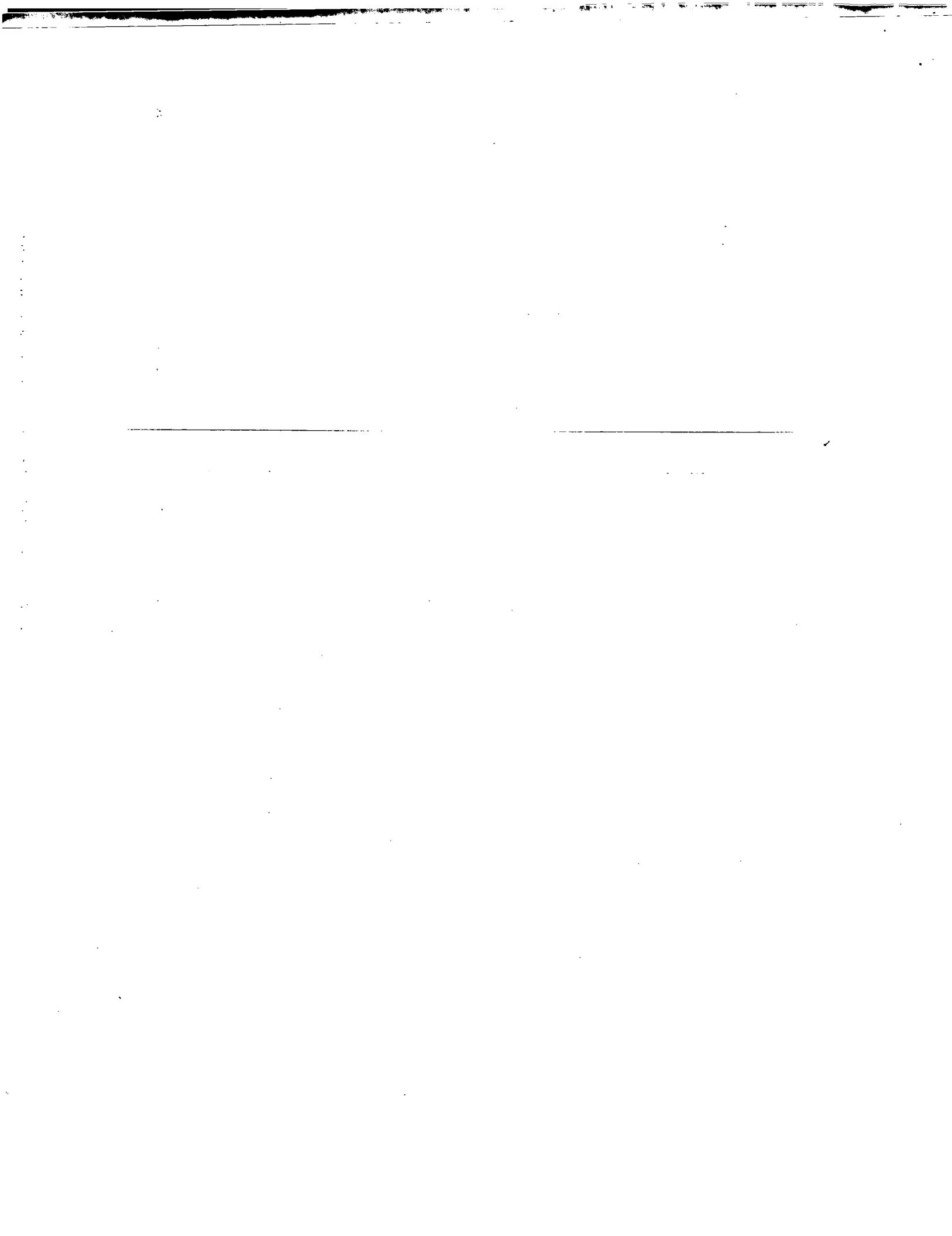
88. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:79;
- (b) the nucleotide sequence of SEQ ID NO:79 from nucleotide 2 to nucleotide 1018;
- (c) the nucleotide sequence of SEQ ID NO:79 from nucleotide 53 to nucleotide 1018;
- (d) the nucleotide sequence of the full-length protein coding sequence of clone vp14_1 deposited with the ATCC under accession number 207011;
- (e) a nucleotide sequence encoding the full-length protein encoded by the cDNA insert of clone vp14_1 deposited with the ATCC under accession number 207011;
- (f) the nucleotide sequence of a mature protein coding sequence of clone vp14_1 deposited with the ATCC under accession number 207011;
- (g) a nucleotide sequence encoding a mature protein encoded by the cDNA insert of clone vp14_1 deposited with the ATCC under accession number 207011;
- (h) a nucleotide sequence encoding a protein comprising the amino acid sequence of SEQ ID NO:80;
- (i) a nucleotide sequence encoding a protein comprising a fragment of the amino acid sequence of SEQ ID NO:80, the fragment comprising eight contiguous amino acids of SEQ ID NO:80;

- (j) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 65 degrees C, or 4X SSC at 42 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g); and
- (k) the nucleotide sequence of a polynucleotide that hybridizes under conditions at least as stringent as 4X SSC at 50 degrees C, or 6X SSC at 40 degrees C with 50% formamide, to any one of the polynucleotides specified by (a)-(g), and that has a length that is at least 25% of the length of SEQ ID NO:79.

89. A protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of SEQ ID NO:80;
- (b) a fragment of the amino acid sequence of SEQ ID NO:80, the fragment comprising eight contiguous amino acids of SEQ ID NO:80; and
- (c) the amino acid sequence encoded by the cDNA insert of clone vp14_1 deposited with the ATCC under accession number 207011; the protein being substantially free from other mammalian proteins.



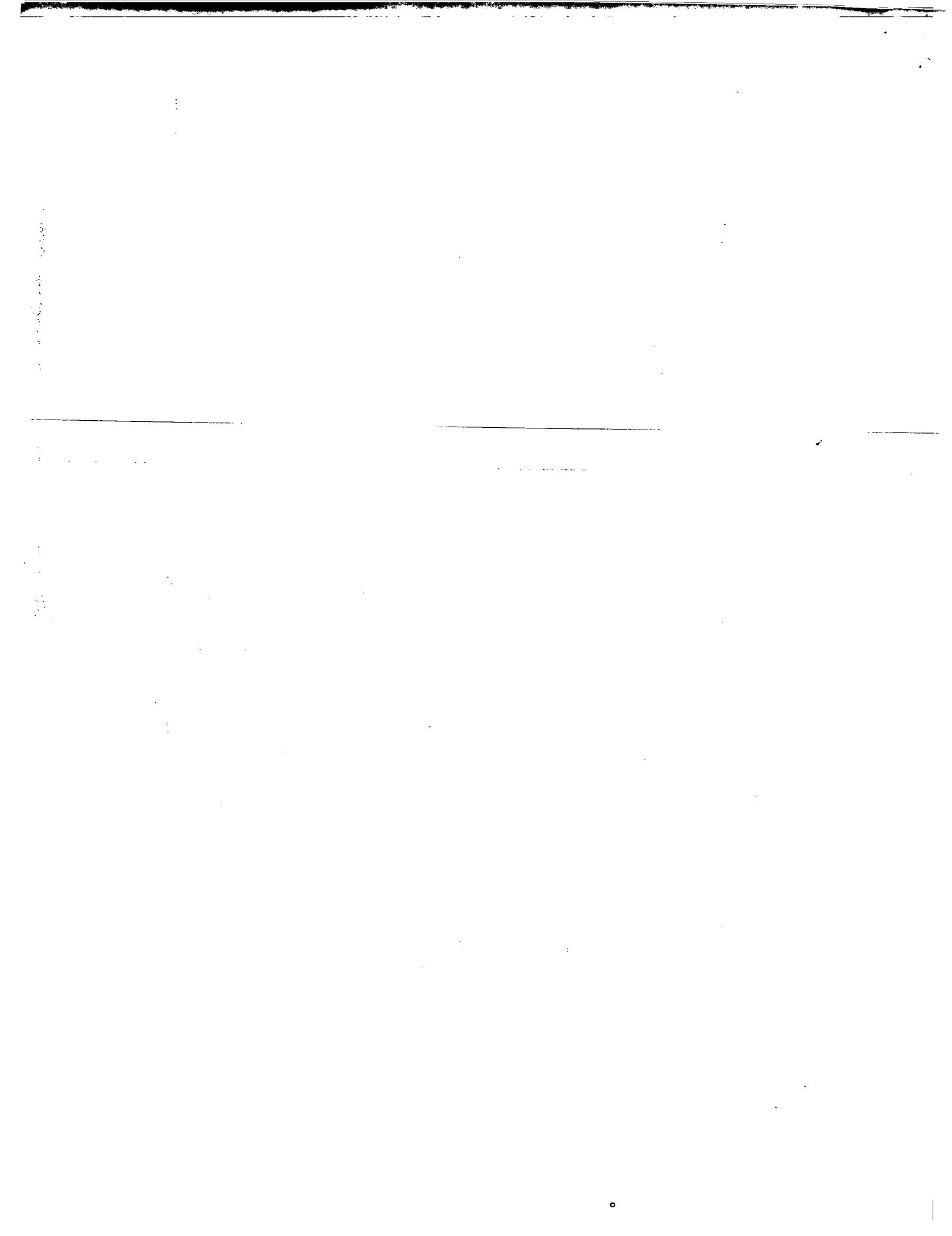
Clone "vb21_1"

A polynucleotide of the present invention has been identified as clone "vb21_1". vb21_1 was isolated from a human fetal brain cDNA library and was identified as encoding a secreted or transmembrane protein on the basis of computer analysis of the 5 amino acid sequence of the encoded protein. vb21_1 is a full-length clone, including the entire coding sequence of a secreted protein (also referred to herein as "vb21_1 protein").

The nucleotide sequence of vb21_1 as presently determined is reported in SEQ ID NO:19, and includes a poly(A) tail. What applicants presently believe to be the proper reading frame and the predicted amino acid sequence of the vb21_1 protein 10 corresponding to the foregoing nucleotide sequence is reported in SEQ ID NO:20. Amino acids 296 to 308 of SEQ ID NO:20 are a predicted leader/signal sequence, with the predicted mature amino acid sequence beginning at amino acid 309. Due to the hydrophobic nature of the predicted leader/signal sequence, it is likely to act as a transmembrane domain should the predicted leader/signal sequence not be separated 15 from the remainder of the vb21_1 protein.

The EcoRI/NotI restriction fragment obtainable from the deposit containing clone vb21_1 should be approximately 4159 bp.

The nucleotide sequence disclosed herein for vb21_1 was searched against the GenBank and GeneSeq nucleotide sequence databases using BLASTN/BLASTX and 20 FASTA search protocols. vb21_1 demonstrated at least some similarity with sequences identified as AA026150 (zj99c10.s1 Soares pregnant uterus NbHPU Homo sapiens cDNA clone 469170 3', mRNA sequence), T72108 (Human semaphorin Z gene; standard; cDNA to mRNA), U52840 (Human semaphorin F homolog), X97817 (M. musculus mRNA for semaphorin F), and X97818 (M. musculus mRNA for semaphorin G). The predicted 25 amino acid sequence disclosed herein for vb21_1 was searched against the GenPept and GeneSeq amino acid sequence databases using the BLASTX search protocol. The predicted vb21_1 protein demonstrated at least some similarity to sequences identified as W19857 (Human semaphorin Z) and X97818 (semaphorin G [Mus musculus]). Semaphorins are important membrane proteins involved in axonal guidance in the 30 embryonic stage, and may also have a role in nerve regeneration after injury. Based upon sequence similarity, vb21_1 proteins and each similar protein or peptide may share at least some activity. The TopPredII computer program predicts four additional potential transmembrane domains within the vb21_1 protein sequence, centered around amino acids 237, 523, 769, and 895 of SEQ ID NO:20, respectively.

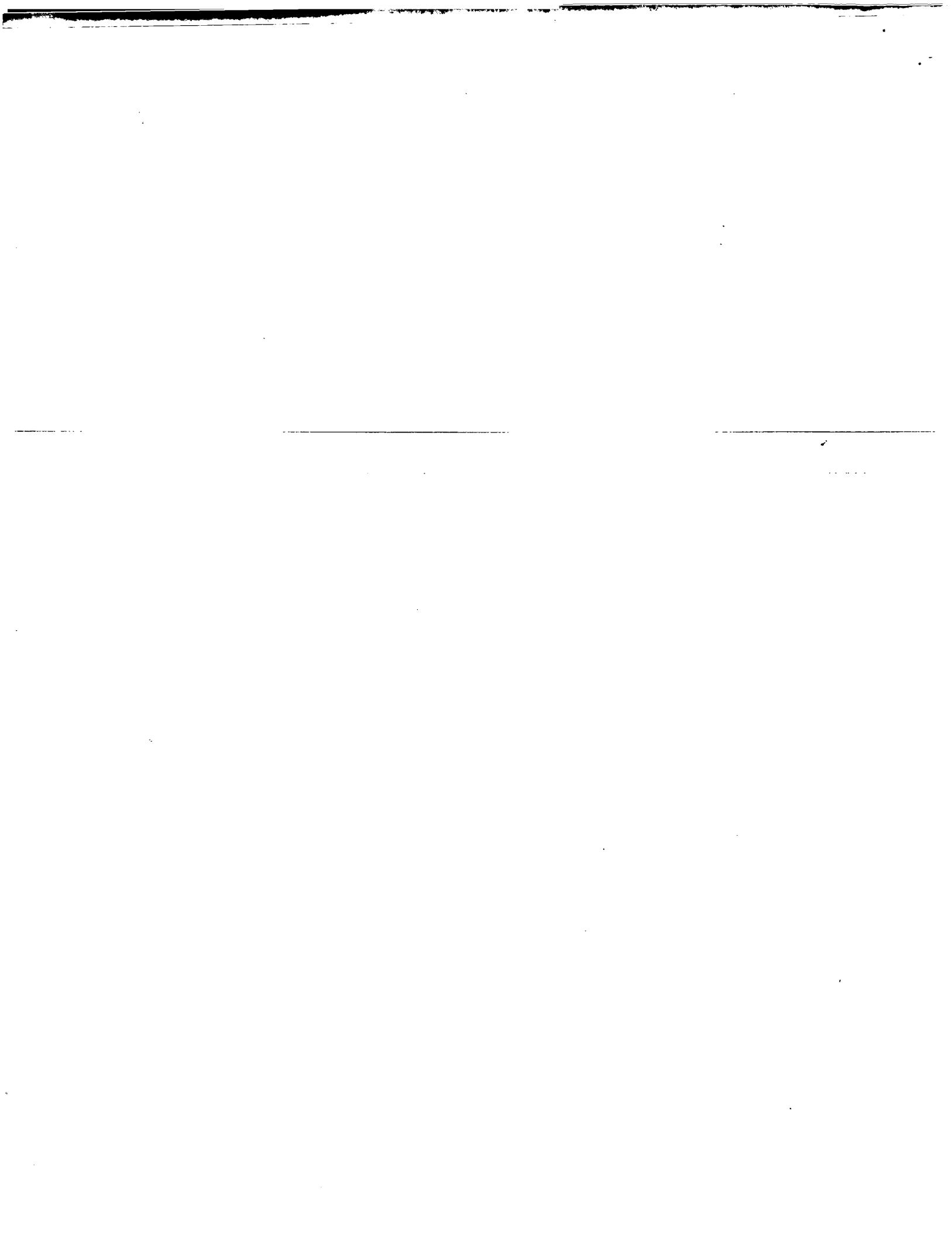


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 65 70 75 80
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 100 105 110
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WO 00/11015

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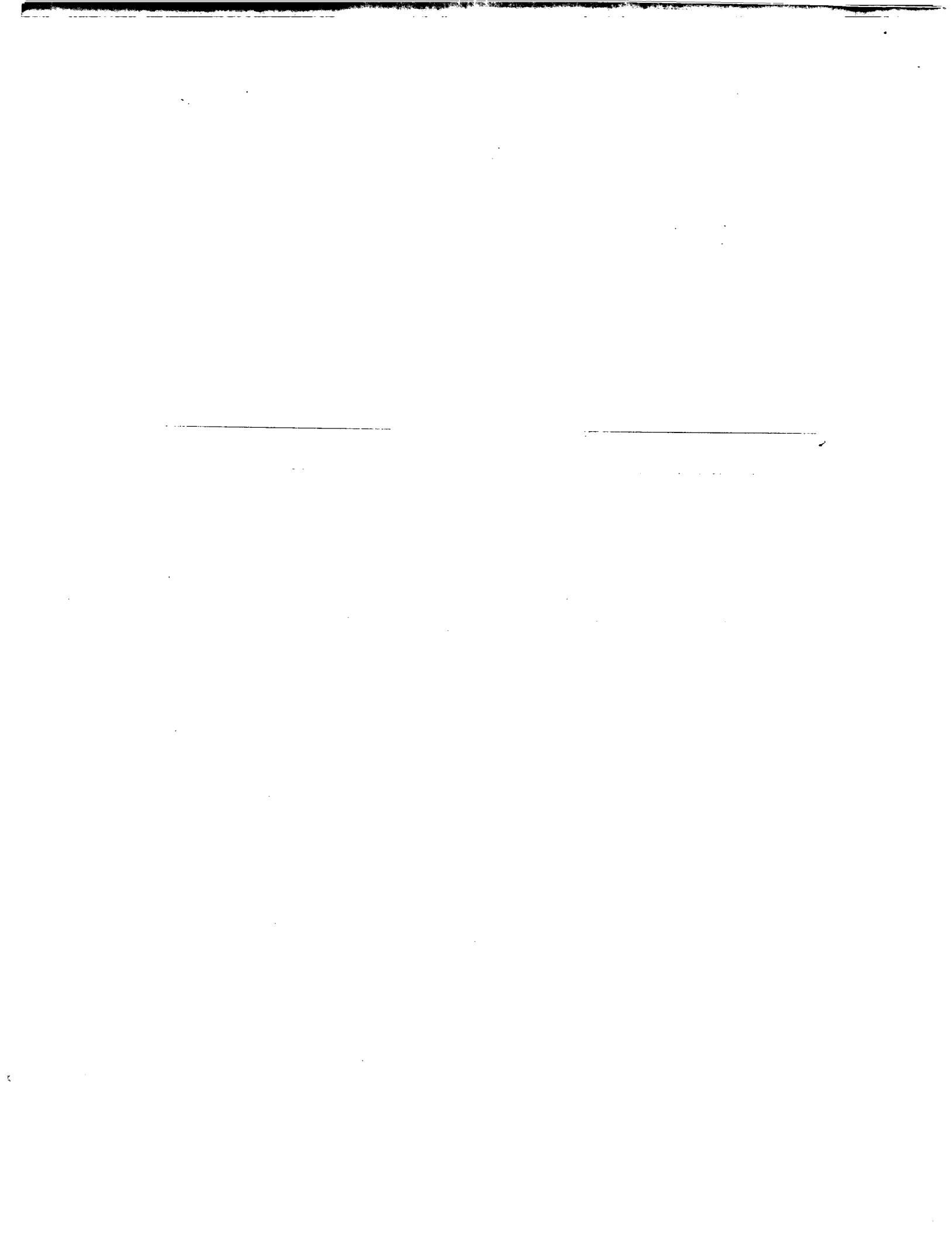
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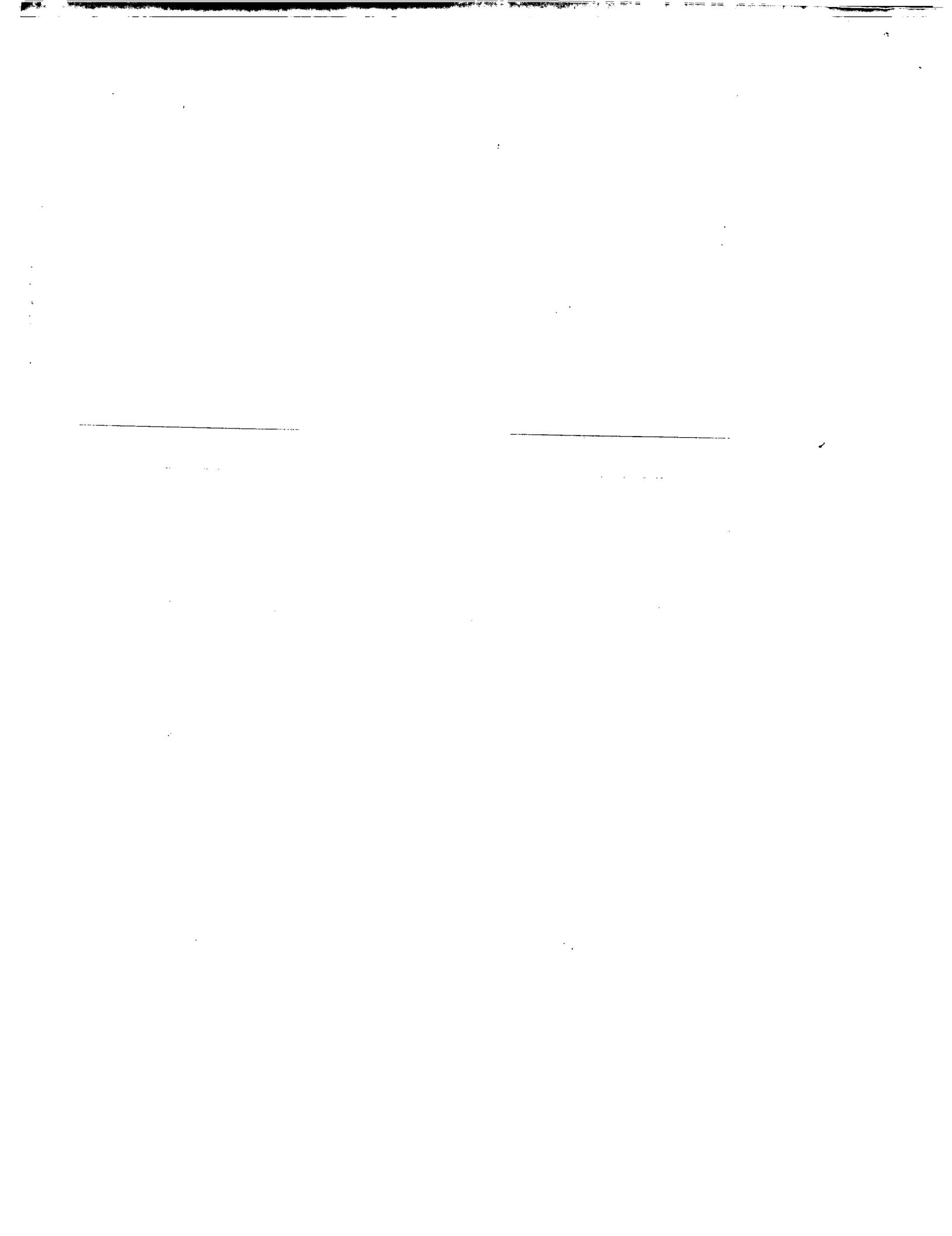
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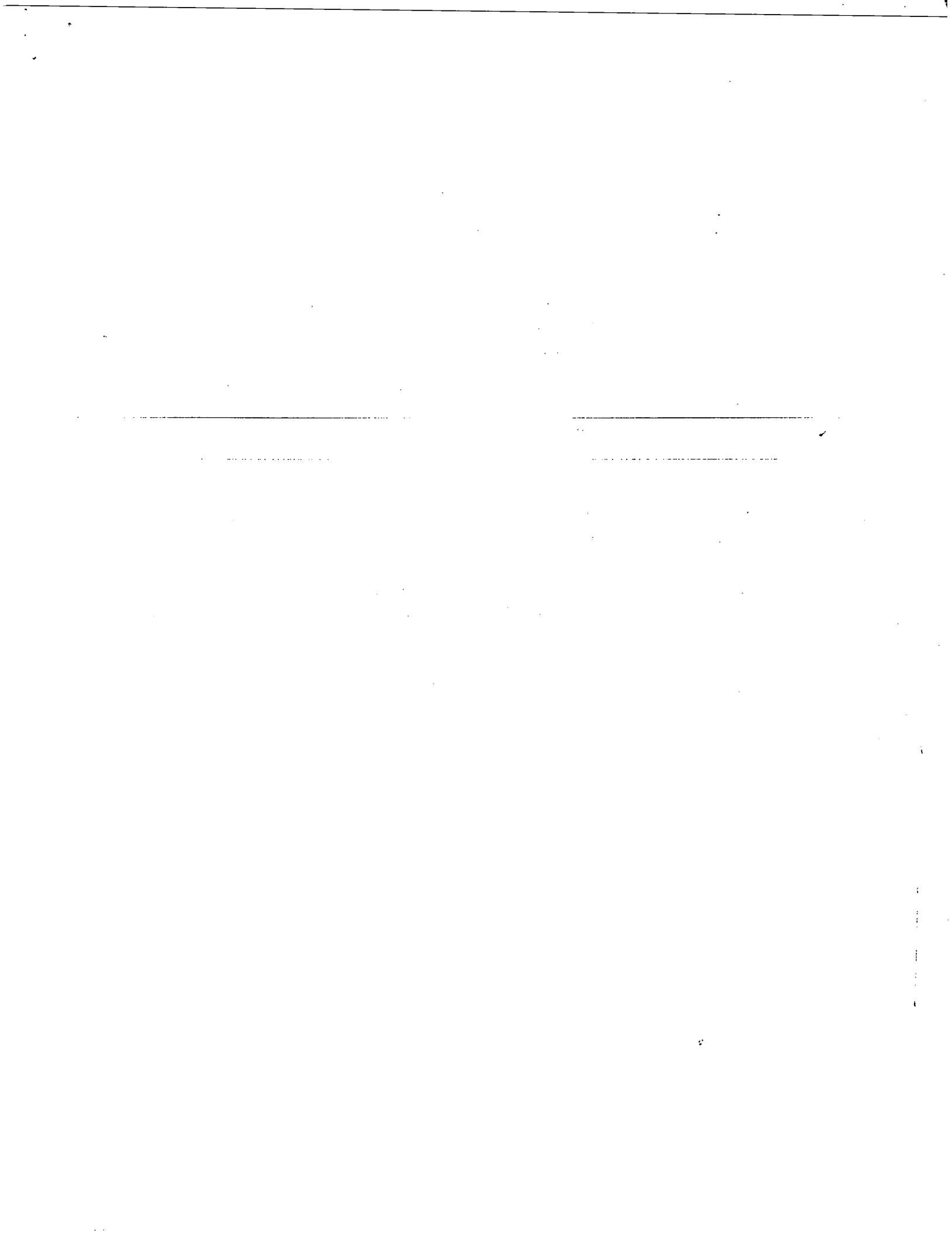
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Ala Ala Thr Val Ile Asp Phe Ser Gly Arg Asp Pro Ala Ile Tyr Arg		
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Ser Leu Gly Ser Gly Pro Pro Leu Arg Thr Ala Gln Tyr Asn Ser Lys		
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Thr Val Tyr Ser Arg Val Ala Arg Val Cys Lys Asn Asp Val Gly Gly		
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Asn Cys Ser Arg Pro Gly Glu Val Pro Phe Tyr Tyr Asn Glu Leu Gln		
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Ser Ala Phe His Leu Pro Glu Gln Asp Leu Ile Tyr Gly Val Phe Thr		
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Ser Ala Ile Ser Gln Ala Phe Asn Gly Pro Phe Arg Tyr Gln Glu Asn		
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Pro Val Thr Pro Glu Pro Cys Val Thr Gln Asp Ser Val Arg Phe Ser		
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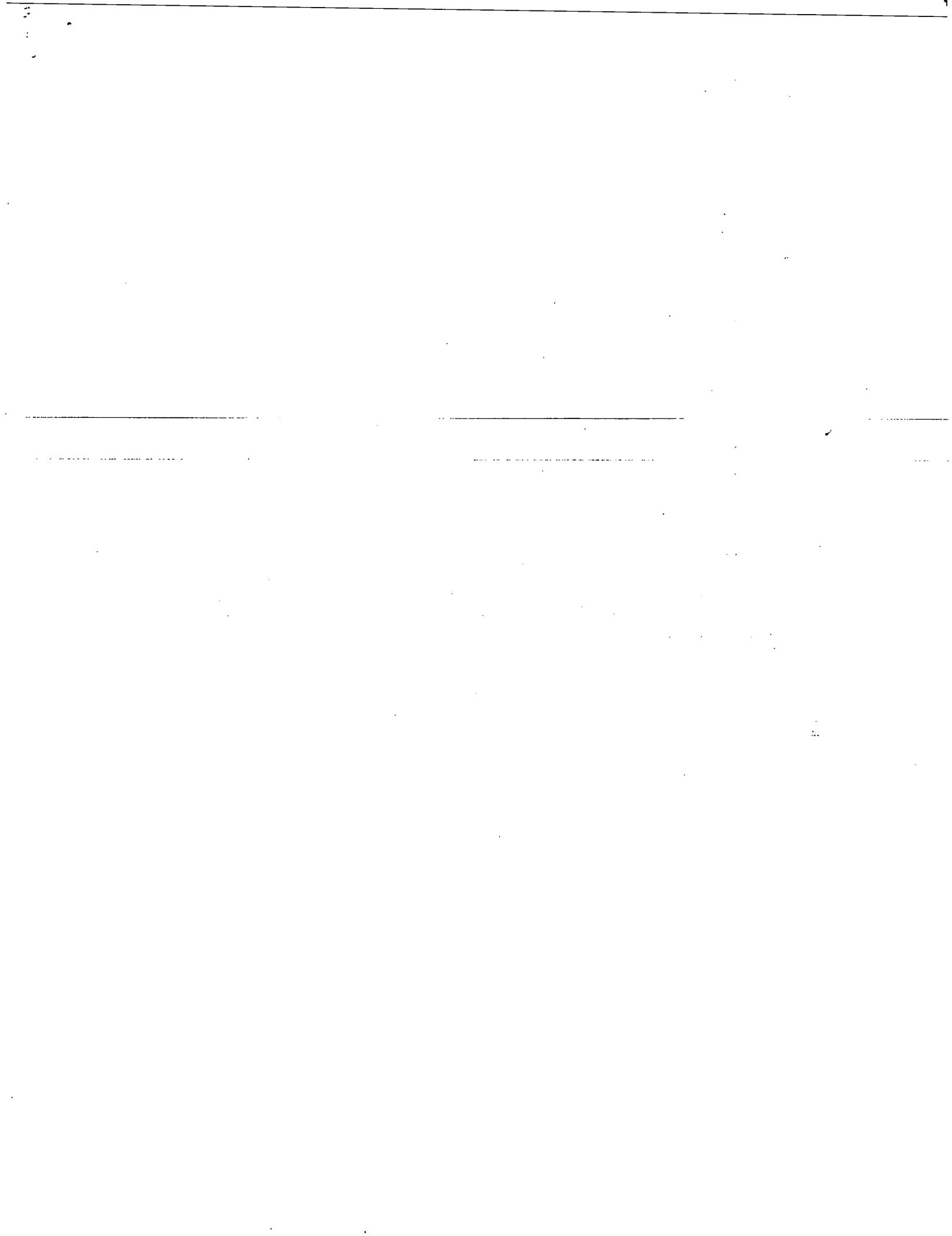
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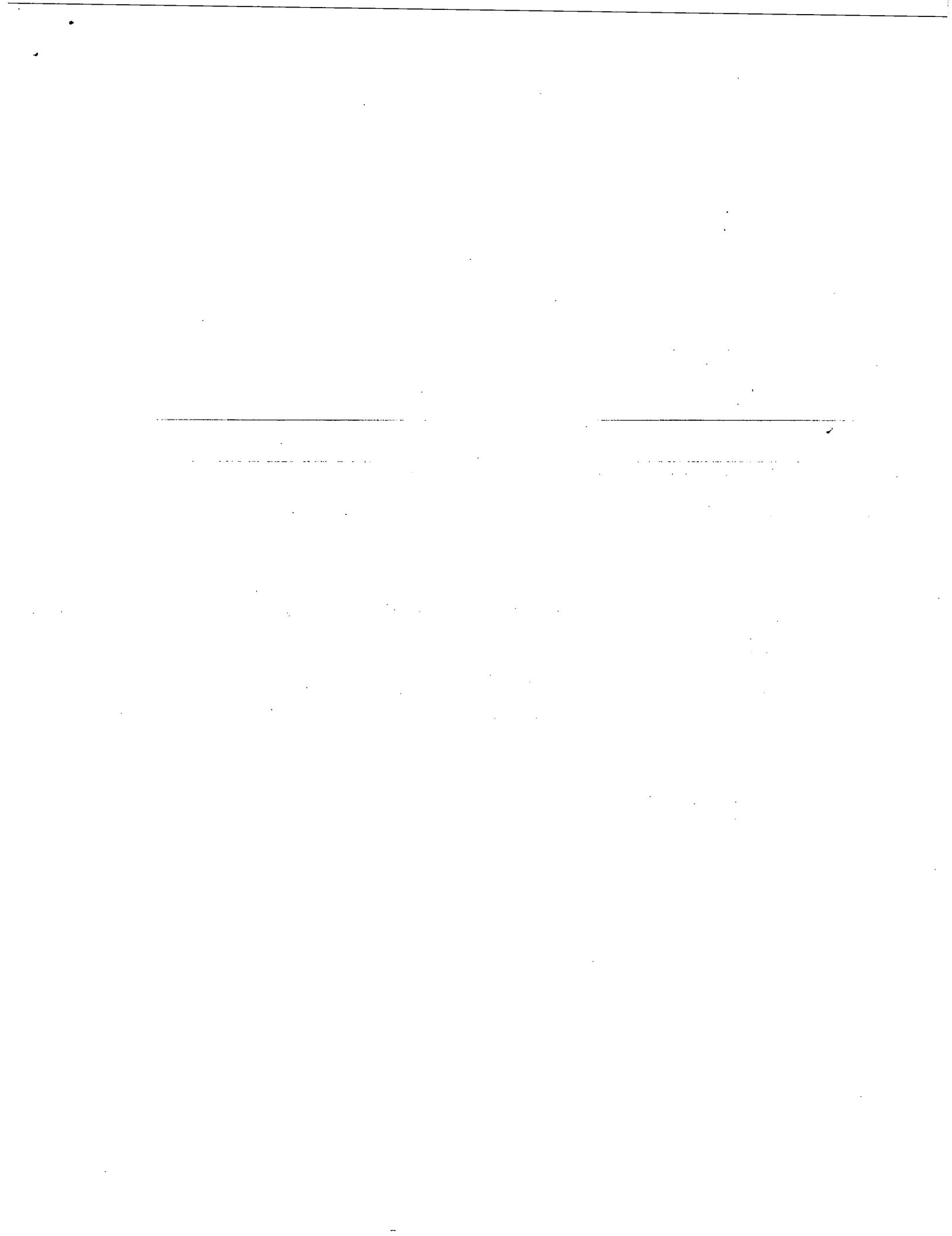
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Phe Arg Val Arg Lys Arg Thr Cys Thr Asn Pro Glu Pro Arg Asn Gly		
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Gly Leu Pro Cys Val Gly Asp Ala Ala Glu Tyr Gln Asp Cys Asn Pro		
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Gln Ala Cys Pro Val Arg Gly Ala Trp Ser Cys Trp Thr Ser Trp Ser		
755	760	765
Pro Cys Ser Ala Ser Cys Gly Gly His Tyr Gln Arg Thr Arg Ser		
770	775	780
Cys Thr Ser Pro Ala Pro Ser Pro Gly Glu Asp Ile Cys Leu Gly Leu		
785	790	795
His Thr Glu Glu Ala Leu Cys Ala Thr Gln Ala Cys Pro Glu Gly Trp		
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Ser Pro Trp Ser Glu Trp Ser Lys Cys Thr Asp Asp Gly Ala Gln Ser		
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Arg Ser Arg His Cys Glu Glu Leu Leu Pro Gly Ser Ser Ala Cys Ala		
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Gly Asn Ser Ser Gln Ser Arg Pro Cys Pro Tyr Ser Glu Ile Pro Val		
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Ile Leu Pro Ala Ser Ser Met Glu Glu Ala Thr Gly Cys Ala Gly Phe		
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Asn Leu Ile His Leu Val Ala Thr Gly Ile Ser Cys Phe Leu Gly Ser		
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Gly Leu Leu Thr Leu Ala Val Tyr Leu Ser Cys Gln His Cys Gln Arg		
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Gln Ser Gln Glu Ser Thr Leu Val His Pro Ala Thr Pro Asn His Leu		
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His Tyr Lys Gly Gly Thr Pro Lys Asn Glu Lys Tyr Thr Pro Met		
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Glu Phe Lys Thr Leu Asn Lys Asn Asn Leu Ile Pro Asp Asp Arg Ala		
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Asn Phe Tyr Pro Leu Gln Gln Thr Asn Val Tyr Thr Thr Tyr Tyr		
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